Book of Abstracts

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An LCA of French beans from Kenya with a critical analysis of impacts due to pesticide applications

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Abstract

This paper presents and critically analyzes a cradle-to-market-gate LCA study performed with Endpoint indicators for a public decision-maker for the fresh French bean *(*FB*)* value chain of Kenya. Five main stages were included*:* agricultural production, transport by road before pack-house, pack-house, transport by road after pack-house and intercontinental transport by air-freight. The functional unit was 1 kg of raw French bean processed. Supported by local experts, primary data were collected for all inputs and outputs for 33 farms over 5 counties and 2 pack-houses. At market-gate, air-freight was identified as main hot-spot pleading for the design of stabilized FB products that could be sea-freighted. At farm-gate, large differences were observed between farm types and fertilizer, water and land use were the key drivers of their eco-efficiency. Impacts due to pesticides applications were small at Endpoint level but were incomplete. To help practitioners perform more complete assessments of value chains in South contexts, operational and reliable tools are needed on estimating field pesticides' emissions and uncertainty.

Keywords: *LCA; decision-makers; pesticides; French bean; Kenya.*

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